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the reception of scanned image signals from the facsimile machine, or the sending of computer data to the facsimile machine for printing.

REMARKS /ARGUMENTS

Claims 37, 38, 39, 42, 44-48 remain in this Application.

Claims 30, 31, 49, 50, 51 and 55 have been cancelled.

Claims: 27-29, 32-36, 40,41, 43, 52-54, have been amended.

Response to paragraph 1

Please see additional arguments provided herein, and detailed in response to paragraph 4

Response to paragraph 2

Claim 40 has been amended to reflect " and the computer".

Response to paragraph 3

Claims 27,28,29,32,33,34, 35, 40 and 43, and 52 - 54, have been amended to comply with 35 U.S.C. 112, as noted herein.

Claims 30, 31, 49, 50, 51 and 55 have been canceled as noted above.

The following responses to Patent Examiner comments in the above referenced Office Action are provided.

Response to paragraph 4

Regarding claim 27, see the amended claim 27, and the following discussion. The following denotes some significant differences between Perkins' Patent and the Applicant's Patent Application. Also described is a major limitation to Perkins' Patent, ie. Perkins' device 3 design is limited to the transfer of only analog signals (not digital signals) from his device 3 to the facsimile transceiver, and his design can receive only analog signals (not digital signals) from the facsimile transceiver to his device 3. In contrast, the Applicant can transfer digital signals

between the facsimile transceiver and the computer in accordance with the Applicants' Specification and numerous claims (claims 27, 32, 33, 35, 36, 40, 43, 44, 45, 47, 52, 53, and 54), and as delineated in Figures 2F, 2G, and 2H.

Perkins col. 9, lines 29-33, requires the use of a modem, ring generator means, line loop detector, control means comprising microprocessor 10, all of which are within the configuration of device 3. Perkins' device 3 is placed on a card internal to the computer in order to enable the transfer of analog signals between the facsimile transceiver and the computer (not digital signals). See Perkins Column 3, lines 63 - 65, which clearly defines a PSTN - type analog connection to the facsimile transceiver. By incorporating his device 3, Perkins has modified the computer with his invention. For example, when in the printing mode, to enable the transfer of a signal from the computer to the facsimile transceiver, Perkins' device 3 must convert a digital signal into an analog signal, which passes through a PSTN (Public Switch Telephone Network) type connector, in order to be received by the facsimile transceiver. See Perkins, col. 3, line 59 through col. 4, line 2, and Perkins Fig 1.

It is evident that Perkins does not envision a direct transfer of digital signals between the facsimile transceiver and the computer. At no time does Perkins state that the facsimile transceiver is equipped to receive or transmit digital signals, or that the facsimile transceiver is configured with a connector suitable for the receipt or transfer of digital signals, such as an RS 232 connector. Nor is Perkins' device 3 designed to transmit digital signals directly to the facsimile transceiver. Therefore, Perkins is limited to transferring only analog signals between the external connection of his card device 3, when it's located in the computer, and the facsimile transceiver.

There is no reference by Perkins indicating the transfer of a non interrupted or non intercepted digital signal from the facsimile transceiver to the computer. In fact Perkins specifically states that the facsimile transceiver is equipped with a PSTN

connector which necessarily means that the connector receives or transfers an analog signal, not a digital signal.

Perkins' description for transferring scanning or print signals are described by Perkins in col. 4, line 3 to col. 5, line 12. Specifically print signals are described in col. 4, line 41 to line 47. Perkins states "The line interface unit 7 then sends the modulated data to the facsimile transceiver 1 via the connector 4". As noted earlier, connector 4 is a PSTN type connector which accepts standard analog transmission signals not digital signals.

In effect, in the print mode Perkins' device 3 must convert digital signals to analog, which are the only signals that can be received by the facsimile transceiver for printing when using Perkins' Patent.

Scanning is described in col. 5, line 1 through line 12 of Perkins' Patent. According to Perkins, "Once communication is established, the facsimile transceiver 1 sends modulated signals representing the scanned documents via the connector 4 to the line interface unit 7 and to the modem 9 where the modulated signals are demodulated".

In Perkins' scanning application the signal which is transferred between connector 4 and line interface unit 7 when Perkins card is installed in the computer is a standard analog facsimile transmission. After the analog facsimile transmission data enters the card installed in the computer through line interface unit 7, the modulated signals are demodulated by modem 9, and then transferred by Perkins' microprocessor 10 (located on his card), as digital information. Perkins col. 9, lines 31 to 33 states "The card would have a connector for the facsimile transceiver to connect the computer directly to the facsimile transceiver". The card connector must therefore be one of a PSTN type, in order to transfer analog signals between the facsimile transceiver and the computer, because the facsimile transceiver has not been modified by Perkins to send or receive digital signals.

In contrast, what the Applicant does to enable the transfer of non - intercepted digital signals between the facsimile transceiver and the computer is very different from Perkins. The Applicant uses standard communications software available for most computers in order to send or receive non - intercepted digital data between the facsimile transceiver and the computer.

The Applicant integrates his circuit 10 with the existing control/modem circuitry of the facsimile transceiver in order to establish a digital connection and to transfer non - intercepted digital signals through RS 232, or parallel connector type ports between the facsimile transceiver and the computer. (See the Applicants' Patent Application page 16, lines 22 through page 17, line 14, and Fig. 2G.) The Applicant does not require any intervening circuitry to demodulate or modulate the transmitted signals as does Perkins. In addition, when digital data is transferred for scanning or printing, the Applicant does not require the use of a computer modem, as does Perkins with his device 3.

In claims where the Applicant transfers an analog signal, it is always to an existing computer modem either external or internal to the computer, said computer modem is not required to be provided by the Applicant, whereas Perkins because of his design must provide a modem as part of his card or device 3.

Regarding the Examiner's comment for claim 27, with reference to Perkins, as noted in the last sentence of the Examiner's comments, "The direct connection of the facsimile transceiver (1) and the computer (2) is isolated from the telephone line." It is agreed that both Perkins and the Applicant isolate from the telephone line.

However, this action represents only a single step in an otherwise completely different way of enabling the transfer of digital and analog signals between a facsimile transceiver and a computer for scanning or printing, and is therefore non - infringing, as described herein.

In addition to the above information, please consider the following:

When Perkins' device 3 receives the facsimile analog transmission signals for scanning through the PSTN type connector in the external mode, the modulated signal is demodulated by device 3 and subsequently transmitted as a digital signal to the RS 232 port of the computer where it is transmitted through the I/O Bus and is processed by the receiving circuits, (i. e. UART, CPU) of the computer.

When Perkins places his device 3 on a card internal to the computer, the same process noted above occurs. In this internal configuration, facsimile transmission data never enters the computer I/O Bus until after it is processed by the device 3 card circuits into digital data, thereafter, the flow of data transfers to the I/O Bus and is processed by the computer circuitry.

It is therefore evident that Perkins' device 3 intercepts the flow of data before it is transmitted to the computer circuits, in order to convert the analog signal into a digital signal format acceptable to the computer. Hence, even though circuitry of device 3 is placed in a card within the box containing the computer it should be regarded as a peripheral device to the computer which processes data before it is transmitted to the I/O bus of the computer.

Contrary to the above, when the Applicant transfers digital data from the facsimile transceiver for scanning to the computer, the non intercepted data enters through the RS 232 type connector port of the computer and passes directly to the I/O Bus and is processed by the receiving circuits (i. e. UART, CPU) of the computer, providing a true non intercepted digital signal between the facsimile transceiver and the computer. In effect, the Applicant's method does not use intermediary peripheral circuitry for signal interception, resulting in demodulation or modulation such as is required by Perkins with his card or device 3.

Consequently, the Applicant's invention is different from the prior art as required by 35 USC 102e. Not only is the Applicant's invention different, but his invention is not obvious, in keeping with the requirement of 35 USC 103. This difference is meaningful, not found in the prior art and provides real benefit. For example, the Applicant's invention can be built for at least half the cost of the prior art, since it does not require any of the additional hardware and software (loop detector circuit 8, modem 9, microprocessor 10, control program, device 3 controls, display 12, and keypad 13), that is required to be provided by the prior art of Perkins. The prior art never suggests or teaches the inventive methods of the Applicant as stated herein, for transferring digital and analog signals in order to create a scanning or a printing function between a computer and a facsimile transceiver.

Regarding claim 28, this claim has been amended to comply with the Examiners comment, and in accordance with the discussion herein, for paragraph 4, claim 27, above. Please note that the "computer mode", is inherently a function of all computers, and is used by the Applicant in an otherwise completely different and simplified inventive method than Perkins for enabling the transfer of digital and analog signals between a facsimile transceiver and a computer for scanning or printing, and is therefore believed to be non - infringing, as described herein.

Regarding claim 29, this claim has been amended to comply with the Examiners comment, and in accordance with the previously referenced discussion for claim 27, herein.

Regarding claim 30, this claim has been deleted.

Regarding claim 31, this claim has been deleted.

Regarding claim 35, this claim has been amended to comply with the Examiners comment.

Regarding claim 36, See the amended claim 36, and discussion for paragraph

4, claim 27, and as follows. Perkins and the Applicant use the public telephone line for communication. However, this action appears as a single step in an otherwise completely different way of enabling the transfer of digital and analog signals between a facsimile transceiver and a computer for scanning or printing, and is therefore believed to be non - infringing, as described herein. Please note the amended claim 36, now specifies a digital connection mode, and allows for the digital signals to be transferred without interception between the facsimile machine and the computer, which Perkins prior art cannot do, as stated in the referenced discussion herein.

Regarding claims 37, 38, and 40, see response to paragraph 4, discussion for claim 27. The Perkins card, as noted above can only be equipped with a PSTN type connector, which is capable of transferring analog signals to the facsimile machine, which must be equipped with a PSTN type connector for receiving or sending said analog signals. There would be no purpose in equipping Perkins' card which is installed in the computer, with an RS 232 connector, since the circuit described by Perkins can only transmit an analog signal to the facsimile transceiver through a PSTN type connector and the facsimile transceiver has not been enabled to receive a digital signal. Based on this analogy, the Examiner's comment that " the connector (col. 9, line 31) is inherently a RS 232 or RJ 11 port", is not justified with respect to the RS 232 connector.

Regarding claims 41 and 42, the Patent Examiner states " It is inherent that the scanned data is optically recognized and converted into character codes at the computer (2)," It is in fact not necessary to convert a scanned document with optical character recognition software in the computer, unless the user has a need to edit said document. A scanned document may remain resident in a computer as an image of text, photograph or line art, etc., for storage or for future facsimile transmission or E-mail, without the need to optically recognize it. Therefore, it is not inherent, as

suggested by the Examiner, that said scanned data would require optical recognition. It is therefore requested that claims 41 and 42 covering optical recognition be allowed.

Regarding claims 43, 52 and 53, see the discussion herein in paragraph 4, with respect to Perkins, and the inventive differences stated by the Applicant.

Regarding claim 44, see the following, and discussion above for differences in the way the Applicant and Perkins use a serial data port. Most computers are equipped with serial data ports for peripheral device usage such as a printer.

However, the Applicant employs the use of the serial data port when serial data is transferred through the facsimile transceivers serial data port and linked directly to the computer's serial data port. Perkins only uses the serial data port to connect from his device 3 to the computer. See Perkins column 4, lines 14 - 17, and lines 41 - 47. In addition, Perkins never suggests that the facsimile transceiver is equipped with a serial data port.

Regarding claim 47, see the discussion herein, and as noted above: The digital serial data being transferred is not intercepted by the Applicant as it is with Perkins' card, or device 3.

Regarding claim 48, see the response to claim 41 and 42 above, with respect to the use of optical character recognition software.

Regarding claims 49 and 50, both have been cancelled.

Regarding claims 54 and 55, claim 55 has been cancelled. See the discussion and additional information provided herein for claim 27, which is applicable to claim 54. In view of the foregoing discussion, it is apparent that the Applicant has invented a simpler way than Perkins, to accomplish a scanning and printing function, between a facsimile machine and a computer.

It is submitted that claims 27, 28, 29, 32 - 34, 36 - 48, and 52 - 54 patently distinguish over the art of record, and reconsideration of these claims, be allowed.

Reconsideration and early allowance of this application are respectfully requested, in view of the foregoing.

If, however, the Examiner is of the opinion that such favorable action cannot now be taken, it is requested that she telephone the undersigned Applicant in order that any outstanding issue may be resolved without the necessity of a further office action.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claim 27. (Amendment 3) - [The use of facsimile machines and / or and facsimile modems internal to an office product to create], A method of creating a scanning capability from a facsimile machine to a [component] computer; with scanned image digital data signals transferred without interception from the facsimile machine to the computer [in a conventional way], comprising the steps of:
by - passing or isolating the facsimile machine and the computer from the public network telephone line and;
coupling the facsimile machine to the computer;
conditioning the computer to receive digital facsimile signals representing data on a scanned document;
conditioning the facsimile machine to transmit digital signals representing data on a scanned document to the computer, [and] said computer being equipped with send / receive driver communications software enabling the reception of scanned image signals from the facsimile machine, said transmitted digital facsimile signals being received directly into the computer interface without prior circuit interception, thereafter, said computer processing the received digital facsimile signals of the scanned document as needed. [manipulation or modification of the original signal, said facsimile machine and computer devices being directly connected to each other, and isolated from a connection with a public network telephone line.]

Claim 28. (Amendment 3) - [The use of facsimile machines], [and / or] [and facsimile modems,] The method of performing a scanning function to a pre - existing facsimile modem, connected to a facsimile machine, said facsimile modem being internal or external to a computer [and various office products], in order to enable a scanning function, [and being connected by telephone types of circuits] said facsimile machine and fax modem are [being], connected when transferring scanned signal data [in a conventional way and], without [interruption] interception of said, [or manipulation] [of the], [original] signals between the facsimile machine and the fax modem, said facsimile machine and fax modem being isolated from the public

network telephone line, [connection for performing scanning being facilitated by the telephone circuits, isolated from the public network,] and by which the establishment of the transmission state within these types of [circuits] connections include one of:

- a) External initiation including [a via] ringing, constant current, on / off hook, or any typical telephone or digital signaling protocols;
- b) Internal initiation, [such as] including setting a manual receive mode, setting a specialized mode, [for example] including, [“PC mode”] computer mode or by pressing a start button on the facsimile machine;
- c) or [any] combination [thereof] of a and b.

29, (Amendment 3) - The method of claim 27 to create a scanning function from a facsimile machine to a computer by [direct] transfer of non-intercepted [non-interrupted], [non manipulated, and non modified] signals from a facsimile machine, through a [passive] connection containing data, representative of scanned images, [from a standard] said facsimile machine, isolated from a public network telephone line, and connected to an appropriate receiving port of a computer, or other office product, or other office product capable of receiving and processing said signals.

Claim 32. (Amendment 2) - The [method] method [use] of claim 27, including transferring a parallel data source signal of a scanned image from [a] fax machine to [a] said computer.

Claim 33. (Amendment 2) - The [method] method [use] of claim 27, including transferring a serial data source signal of a scanned image from [a] said facsimile machine to [a] said computer.

Claim 34. (Amendment 2) - The [method] method [use] of claim 27, including replacing the digital signal with [transferring] an analog scanned image source

signal from the [a] facsimile machine to [a] said computer through a modem interface.

Claim 35. (Amendment 2) - The method of claim 53 for creating a printing function from a computer to a facsimile machine by [direct] [transfer of] sending non-intercepted

[interrupted], [non manipulated, and non modified,] data signals, [containing data], representative of a document to be printed from a computer, and connected to an appropriate receiving port of a [standard] facsimile machine, said facsimile machine and computer by - passing or being [and] isolated from [a] one or more public network telephone [line] lines.

Claim 36. Amendment 3 - A method of making a facsimile machine operable as a scanner or printer for a personal computer, each of the facsimile machine and personal computer for communicating normally using [a] at least one public network telephone line, comprising the steps of:

configuring the facsimile machine to communicate with the personal computer using a digital connector port of the facsimile machine, and personal computer, with both the facsimile machine and personal computer [and] isolated from [the] said at least one public network telephone line:

arranging the facsimile machine to be in a [simulated off hook condition] digital connection mode, and

shifting the personal computer to [an off hook condition] a connection mode, for sending or receiving non intercepted digital signals for scanning or printing between the computer and the facsimile machine, in a facsimile machine format, using [an RJ-11] a digital connector port of the personal computer, said computer being equipped with send / receive driver communications software

enabling the transfer of said scanning or printing signals between the computer and the facsimile machine.

Claim 40. Amendment 2. -The method of claim 36, using [any combination of] [RJ 11], RS 232, [or] parallel or other suitable digital [or analog] port type connectors to interface between [a] said facsimile machine [and a] [or said] and [the] said computer.

Claim 41. (Amendment 2) - The [method] method [use] of claim 27 further comprising optically recognizing the scanned data and converting the scanned data into character codes.

Claim 43 (Amendment 2) - A method of using a facsimile machine as a scanner or printer for a personal computer, each of the facsimile machine and personal computer for communicating using telephone types of circuits, said facsimile machine and computer being isolated from the public telephone network, comprising the steps of:

- (a) Configuring the facsimile machine to communicate with the personal computer using the facsimile machine, and [isolated from] by - passing or isolating the facsimile machine and computer from the [active] public telephone network,
- (b) arranging the facsimile machine to be in a simulated off-hook condition, or connection mode; and
- (c) shifting the personal computer to an off-hook condition, or connection mode for sending or receiving non - intercepted [interrupted] signals in facsimile formats between the personal computer and the facsimile machine,
- (d) said computer being equipped with send / receive driver communications software enabling the transfer of said scanning or printing signals between the computer and the facsimile machine.

Claim 52 - A method of using a facsimile machine with a computer, one or both of which being connected to a telephone line, such that said facsimile machine, [can

operate] operates as a scanning device, when isolated from the telephone [network] line, comprising the steps of:

- (a) coupling the facsimile machine to the computer;
- (b) generating a facsimile machine signal, whereby the computer is conditioned to receive signals representing data on a scanned document.
- (c) generating a signal to simulate an off - hook condition, or connection mode, providing a direct path, whereby the facsimile machine is conditioned to transmit, [and/or non modified] signals without interception [interruption] to the computer, representing data on a scanned document.

Claim 53. A method of using a facsimile machine with a computer, one or both of which being connected to a telephone line, such that said facsimile machine, [can operate] operates as a printing device, when isolated from the telephone [network] line, comprising the steps of:

- (a) coupling the facsimile machine to the computer;
- (b) generating a signal representative of a standard facsimile machine call signal, whereby the computer is conditioned to [Transmit] transmit signals representing data on a document to be printed.
- (c) generating a signal to simulate an off - hook condition or connection mode, providing a direct path, whereby the facsimile machine is conditioned to receive non intercepted [non interrupted, non manipulated and / or non modified] signals representing data from the computer of a document to be printed.

Claim 54. – (Amendment 2) A method of making a facsimile machine operable as a scanner or printer for a computer, each of the facsimile machine, and computer for communicating, normally using at least one public network telephone line, comprising the steps of:

configuring the facsimile machine to communicate with the personal computer using a digital connector port on the facsimile machine, and a digital connector port on the computer, with both the facsimile machine and computer isolated from said at least one public network telephone line: and
arranging the facsimile machine to send or receive digital [serial] data signals, and [means for] coupling the digital data signals to the personal computer, and the facsimile machine, said computer equipped with send / receive driver communications software enabling the reception of scanned image signals from the facsimile machine, or the sending of computer data to the facsimile machine for printing.